

**IN THE CLAIMS:**

1. (currently amended) A method for the evaluation of a biological sample  
~~Diagnostic method~~, based on the amounts of biogenic amines, which comprises:  
carrying out on said sample an ion mobility measurement;
  - a) ~~determining the amounts of said biogenic amines contained in a body fluid~~  
~~or othersaid sample by the appearance of ions derived from said amines in said ion mobility~~  
measurement;
  - b) ~~deriving from said amounts a number of measured parameters related to~~  
~~the desired diagnostic information;~~
  - c) ~~providing, for each diagnostic information desired, an input consisting of~~  
~~the identification of said diagnostic information;~~
  - d) ~~comparing said input to said measured parameters; and~~
  - e) ~~deriving from said comparison a diagnostic response.~~
2. (currently amended) The Methodmethod according to claim 1, wherein the measured parameters are derived from the amounts of the biogenic amines according to a program stored in memory.
3. (cancelled)
4. (currently amended) The Methodmethod according to claim 1, further comprising storing a program that associates a diagnostic response to results of the comparison of the input consisting of the identification of diagnostic information to the measured parameter, for each of the expected diagnostic operations.
5. (currently amended) The Method for the diagnosis of bacterial vaginosis,  
method according to claim 1, wherein the sample is of vaginal fluid and the biogenic amine,  
the amount of which is determined, is which comprises determining the presence of  
trimethylamine in vaginal fluid.
6. (currently amended) The Methodmethod according to claim 5, comprising measuring the number of ions of different amines, and if the ions of trimethylamine are present in a number of 40% or more of the total number of all amine ions, recognizing the presence of bacterial vaginosis, while if they are present in a number of 20% or less, recognizing the absence of bacterial vaginosis.
7. (currently amended) The Methodmethod according to claim 5, further

comprising measuring the amounts of putrescine and cadaverine, and if they are abnormally high suspecting various pathological conditions.

8. (currently amended) The Method~~method~~ according to claim 5, comprising the steps of ionizing vapors emanating from the ~~samples~~samples of the vaginal fluid and measuring the presence of volatile amine compounds by the appearance of ions derived from said compounds in the ion mobility measurement.

9. (currently amended) The Method~~method~~ according to claim 8, further comprising enhancing the emanation of amine vapors by ~~the~~ adding reagents that ~~transform~~transform the amine compounds to more volatile forms.

10. (currently amended) The Method~~method~~ according to claim 9, wherein the addition reagents are chosen from among alkaline solutions or ammonia.

11. (currently amended) A Diagnostic~~diagnostic~~ apparatus, which comprises:

a)—an Ion Mobility Measurement Apparatus for the determination of the amounts of biogenic amines contained in a body fluid or other sample;

b)—a first elaborator means for deriving from said amounts a number of parameters related to the desired diagnostic information;

c)—buffer memory means for storing the measured parameters derived from said determination of the amounts of biogenic amines;

d)—a second elaborator means for deriving, from an input consisting of the identification of the diagnostic information desired and of the measured parameters, a diagnostic response; and,

e)—memory means for storing programs controlling the operations of the first and second elaborator and for memorizing comparative parameters related to said desired diagnostic information;

12. (currently amended) The Apparatus~~apparatus~~ according to claim 11, wherein the Ion Mobility Apparatus is an Ion Mobility Spectrometer (IMS).

13. (currently amended) The Apparatus~~apparatus~~ according to claim 11, wherein the first and second elaborator means may consist of computer means.

14. (currently amended) The Apparatus~~apparatus~~ according to claim 11, wherein the first and second elaborator means are comprised together in a single computer.

15. (currently amended) The Apparatus~~apparatus~~ according to claim 11, wherein at least one of the first and second elaborator means consists of a LUT.

16. (currently amended) The Apparatusapparatus according to claim 11, wherein the Ion Mobility Spectrometer provides a spectrum of the biogenic amines and the first elaborator ~~will be~~ selects the amines that are relevant for the desired diagnostic response.

17. (currently amended) The Apparatusapparatus according to claim 16, wherein the measured parameters are chosen from among the identity of the ions that are present, the ratio of the numbers of different ions that are present, the ratio of said number to the total number of ions, and the height of the peaks of the relevant amines in the amine spectrum.

18. (currently amended) The Apparatusapparatus according to claim 11, wherein the permanent memory contains comparative parameters for each desired diagnostic response.

19. (currently amended) The Apparatusapparatus according to claim 11, wherein the comparative parameters are obtained by determining the spectra of bodily fluids of different subjects that are free of the disease or pathological condition for which a response is desired, determining the measured parameters of said subjects, and averaging said measured parameters of a sufficient number of subjects.

20. (currently amended) The Apparatusapparatus according to claim 19, wherein the measured parameters of the subjects are averaged after weighing them by coefficients which take into account the specific characteristics of each subject.

21. (new) The method according to claim 1, wherein the evaluation is a diagnostic evaluation, the sample is derived from a human, the desired information comprises diagnostic information and the response is a diagnostic response.